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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/420,478	10/19/1999	Roy Mathieu	S1022/8263	2856

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JAMES H MORRIS
WOLF GREENFIELD AND SACKS PC
Federal Reserve Plaza
600 Atlantic Avenue
BOSTON, MA 02210-2211

EXAMINER

HA, NATHAN W

ART UNIT PAPER NUMBER

2814

DATE MAILED: 05/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/420,478

Applicant(s)

MATHIEU, ROY

Examiner

Nathan W. Ha

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pm

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicant's admitted prior art in view of Whitney (WO 95/04374, IDS, previously cited.)

In regard to claims 1 and 4, in figs. 1-3, the Applicant's admitted prior art discloses a high voltage component formed in a region of a silicon substrate 1 of a first conductivity N-type delimited by a wall 2 of the second conductivity P-type, having a lower surface including a first region 6 or 11, in fig. 3, of the second conductivity type connected to the wall 2, and an upper surface including at least a second region 4 of the second conductivity type; further including a third region 10 of the first conductivity type of high doping level formed in the substrate under a portion of the track L. The Applicant's admitted prior art also includes field plate 13 that insulated from the track, however, it does not expressly show the third region being contacted by the field plate 13.

Whitney, in fig. 2, discloses a high voltage component having a field plate 31 extends beyond the third region and being in contact with heavily doped N-type region

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35 in order to prevent such surface charge induced breakdown as taught by Whitney on page 9, lines 25-29.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to connect field plate to the thirist heavily doped region as taught by Whitney in order to prevent such surface charge induced breakdown since field plate would provide a uniform surface potential.

In regard to claim 2, in fig. 2, Whitney further discloses the field plate 36 extends beyond the third region in the wall direction over a distance greater then 10 μm in order to cover the entire junction termination below. Therefore, it would have been obvious to one of ordinary skill in the are at the time of the invention was made to extend the field plate in order to cover the entire junction termination below since field plate isolates the surface charges that accumulate on the passivating layer from distorting the electrical characteristics of the junction termination.

In regard to claim 3, see the Applicant's admitted prior art, page 2, lines 22-24.

Response to Arguments

3. Applicant's arguments filed 6/16/03 have been fully considered but they are not persuasive. Whitney's field plate 36 in fact extends beyond the third region 35 where it becomes 31 and 34. Whitney further states that the field plate contains first portion 34 that is joined to the surface of the substrate. The third region as currently claimed is in the substrate. Therefore, it is being covered by the field plate 34. Applicants further contend that there is no suggestion to combine the references, the examiner recognizes

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that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the combination is used only to show the third region being contacted by the field plate and the motivation was stated in Whitney's page 9, lines 25-29.

Conclusion

4. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

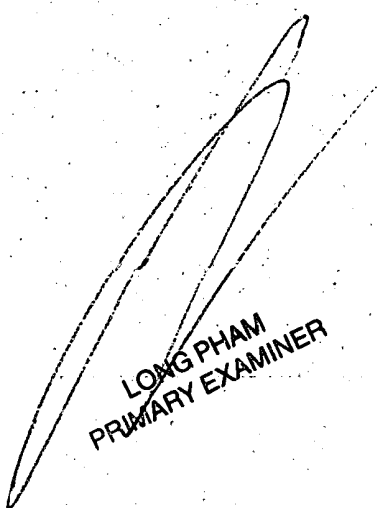
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan W. Ha whose telephone number is (571) 272-1707. The examiner can normally be reached on M-TH 8:00-7:00(EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Nathan Ha
May 18, 2004



LONG PHAM
PRIMARY EXAMINER